

NOTES ON A COLLECTION OF FISHES MADE IN 1882 AND 1883 BY CAPT. HENRY E. NICHOLS, U. S. N., IN ALASKA AND BRITISH COLUMBIA, WITH A DESCRIPTION OF A NEW GENUS AND SPECIES, PRIONISTIUS MACELLUS.

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The United States National Museum has again received from Captain Nichols two collections of forty-eight species of fishes, many of which are additions to the fauna of Alaska, while one has hitherto been unknown to ichthyologists. The Alaskan species are all from the southeastern part of the Territory. The following are especially interesting: *Triglops pingelii*, *Gymnacanthus galcatus*, *Cottopsis gulosus*, *Sebastichthys nebulosus*, *Sebastichthys nigrocinctus*, *Micrometrus aggregatus*, and *Somniosus microcephalus*, all of which are now for the first time definitely recorded from the region under discussion.

These collections, like all others received from Captain Nichols, are in excellent condition, and it is a matter for congratulation that the same efficient officer has again visited a region so rich in interest which has been so little investigated by collectors.

The quotations are from the notes accompanying the collection, and the numbers in marks of parenthesis are from the inventory of Captain Nichols.

1. *Gasterosteus cataphractus* (Pall.) Tilesius.

31959 (138). Near Duncan's Bay, Brit. Col., June, 1882.

2. *Gasterosteus microcephalus* Girard.

31960 (187). Mountain Lake, near Ward's Cove, Alaska, October, 1882.

3. *Pleuronectes stellatus* Pallas.

31983 (166). Port Simpson, Brit. Col., June, 1882.

32012 (165). Port Simpson, Brit. Col., June 29, 1882.

4. *Citharichthys sordidus* (Girard) Günther.

31991 (143). Johnston's Straits, Brit. Col., June, 1882.

31992 (147). Safety Cove, Brit. Col., June 21, 1882.

No. 31992 has the following radial formula: D. 96; A. 79.

5. *Lepidopsetta bilineata* (Ayres) Gill.

31993 (154). Carter Bay, Brit. Col., June, 1882.

A "flounder with white spots" and with the following radial formula: D. 77; A. 58. Teeth in upper jaw, 8+22; in lower jaw, 10+23.

I have had some hesitation in referring this example to the species named above on account of certain peculiarities which must be subsequently considered.

6. *Limanda aspera* (Pallas) Bean.

31982 (159). Port Simpson, Brit. Col., June, 1882.

32000 (155). Cardenas Bay, Brit. Col., June, 1882.

This is the "flounder with brown spots."

33803 (237). Tongass, Alaska, July 26, 1883.

7. *Atheresthes stomias* Jordan & Gilbert.

33792 (235). Wrangel, Alaska, July 19, 1883.

33795 (242). Naba Bay, Alaska, Aug. 23, 1883.

8. *Pollachius chalcogrammus* (Pallas) Jor. & Gilb.

31978 (157). Port Simpson, Brit. Col., June, 1882.

9. *Gadus morrhua* Linné.

31977 (146). Alert Bay, June, 1882.

10. *Ammodytes personatus* Girard.

31963 (167). Port Simpson, Brit. Col., June, 1882.

33782 (211). Port Wrangel, Alaska, May, 1883.

33783 (244). Port Chester, Alaska, Aug. 30, 1883.

33789 (217). Wrangel, Alaska, May 28, 1883.

11. *Delolepis virgatus* Bean.

33790 (210). Port Wrangel, Alaska, winter of 1882-'83.

12. *Lumpenus anguillaris* (Pallas) Girard.

31985 (130). Esquimalt, Brit. Col., May, 1882.

33781 (234). Wrangel, Alaska, July 19, 1883.

33786 (224). Nakat Harbor, Alaska, June 8, 1883.

33787 (223). Boca de Quadra, Alaska, June 6, 1883.

13. *Xiphister mucosus* (Girard) Jordan.

33800 (233). Mary Island, Alaska, July 12, 1883.

14. *Anoplarchus atropurpureus* (Kittlitz) Gill.

31961 (175). Mary Island, Alaska, July, 1882.

33788 (213). Port Wrangel, Alaska, winter 1882-'83.

33910 (232). Tongass, Alaska, 1883.

15. *Murænooides ornatus* (Girard) Gill.

33802 (212). Port Wrangel, Alaska, winter 1882-'83.

33912 (232). Tongass, Alaska.

16. *Bathymaster signatus* Cope.

31966 (173). Mary Island, Alaska, July, 1882.

31973 (153). Carter Bay, Brit. Col., June, 1882.

32016 (195). Port Wrangel, Alaska, Nov., 1882.

33784 (240). Port Chester, Alaska, Aug. 11, 1883.

33796 (227). Nakat, Alaska, June 10, 1883.

33797 (231). Nakat, Alaska, June 23, 1883.

33798 (228). Nakat, Alaska, June 21, 1883.

33799 (229). Nakat, Alaska, June 21, 1883.

33801 (200). Nakat Harbor, Alaska, May 25, 1883.

17. *Liparis* sp.

31962 (137). Dunean's Bay, Brit. Col., June, 1882.

These examples are too young to be definitely made out.

18. *Liparis pulchellus* Ayres.

33913 (232). Tongass, Alaska, 1883.

19. *Cottus polyacanthocephalus* Pallas.

32017 (177). Mary Island, Alaska, July, 1882.

20. *Aspidocottus bison* Girard.

31997 (131). Esquimalt, Brit. Col., May, 1882.

Radial formula : D. VIII, 12 ; A. 9.

21. *Ceratocottus diceraus* (Pallas) Gill.

32007 (188). Tolstoi Bay, Alaska, Oct., 1882.

32015 (169). Fort Tongass, Alaska, July, 1882.

Radial formula : D. VIII, 13 ; A. 10.

22. *Cottopsis gulosus* Girard.

31968 (180). Mountain Lake near Mt. Tongass, Alaska, Aug., 1882.

A single specimen "caught with a hook": D. VIII, 22 ; A. 17.

23. *Gymnacanthus galeatus* Bean.

31967 (191). Steamer Bay, Alaska, Oct., 1882.

24. *Hemilepidotus trachurus* (Pallas) Günther.

31969 (170). Fort Tongass, Alaska, July, 1882.

32010 (141). Duncan's Bay, Brit. Col., June, 1882.

32001 (171). Fort Tongass, Alaska, July, 1882.

"Sculpin."

33794 (230). Nakat, Alaska, June 21, 1883.

25. *Leptocottus armatus* Girard.

32009 (160). Port Simpson, Brit. Col., June, 1882.

26. *Oligocottus maculosus* Girard.

31964 (172). Mary Island, Alaska, July, 1882.

33911 (232). Tongass, Alaska, 1883.

27. *Triglops pingelii* Reinhardt.

31957 (194). Wrangel Straits, Alaska, Nov, 1882.

"Sculpin."

PRIONISTIUS new genus, COTTIDÆ.

A genus resembling *Triglops*, from which it differs in numerous important particulars, among which are the following: (1) its much slenderer form, (2) the absence of a series of bony tubercles along the bases of the dorsal fins, (3) the elongation of the exerted pectoral rays so that the lower portion of the fin is considerably longer than the upper, (4) the presence of serrations on all dorsal spines, and on the first soft ray, and (5) the emargination of the caudal fin.

28. *Prionistius macellus*, new species.

31958 (186). Carter Bay, Brit. Col., Aug., 1882.

33793 (196). Carter Bay, Brit. Col., May 13, 1883.

The type of the present species (catalogue number 31958) was obtained by Captain Nichols in Carter Bay, British Columbia, in August,

1882. Its length to the end of the upper caudal lobe is 172 millimeters; to the origin of the middle caudal rays it measures 154 millimeters, which length is taken as the unit for comparison with parts of the body.

DIAGNOSIS: *Prionistius macellus* differs greatly from *Triglops pingelii*, particularly (1) in its more slender body, (2) in its shorter jaws, (3) in its longer dorsal and anal fins, (4) in its emarginate caudal, (5) in having the uppermost exerted pectoral ray considerably longer than the rays above it, (6) in the more advanced position of the ventral fin, which is also much shorter than in *T. pingelii*, (7) in the greater number of rays in its dorsal and anal fins.

These differences are clearly brought out in the table of measurements accompanying this description. By a very happy coincidence Captain Nichols, during the same cruise, obtained an individual of *Triglops pingelii* which is only 8 millimeters longer than the type of *P. macellus*, thus securing the first recorded Alaskan specimen of *T. pingelii*, and at the same time adding an interesting new genus related to *Triglops*.

DESCRIPTION: The body is slender and elongate; its greatest height equals the length of the lower jaw, and is contained 8 times in the unit of length. The height at the ventrals equals $\frac{1}{2}$ of the distance of the pectoral from the tip of the snout, and is contained $8\frac{1}{2}$ times in the standard body length. The caudal peduncle is shorter than in *T. pingelii*; its least height equals the width of the interorbital space. The length of the caudal peduncle, measured from the end of the anal fin to the origin of the middle caudal rays, is contained 7 times in the standard total length. There are no bony plates along the dorsal fins. The lateral line contains well developed osseous tubercles, and beneath it are ciliated scales similar to those of *T. pingelii*; the breast, however, unlike that of the species just named, is naked.

The head agrees in the main with that of *T. pingelii*, but is not so deep nor so wide; the jaws are about equal in front. The greatest length of the head is contained $4\frac{1}{6}$ times in the unit of length; its greatest width is slightly more than $\frac{1}{2}$ its length, and is contained $7\frac{1}{2}$ times in the standard body length. The width of the interorbital area, measured on the bone, is nearly $\frac{1}{3}$ of the long diameter of the orbit, which equals the snout in length. On the top of the head, close behind the orbits, are two short, interrupted furrows similar to those observed in some species of *Prionotus*. The length of the upper jaw is contained $2\frac{1}{3}$ times in that of the head, equals that of the postorbital part of the head, and is contained $9\frac{1}{2}$ times in the unit of length. The maxillary extends nearly to the vertical through the middle of the eye, the mandible nearly to that through the posterior margin of the eye. The length of the mandible is about $\frac{1}{2}$ that of the head. The dentition is the same as in *T. pingelii*. The length of the eye equals that of the snout, and is contained $3\frac{1}{2}$ times in the length of the head. The branchiostegal membrane is not very deeply emarginate, and is free from the

isthmus. The slit behind the fourth gill is a little more than half as long as the pupil. The gill-rakers on the anterior arch are quite rudimentary, their length being rather less than their width; there are 8 below the angle.

The distance of the spinous dorsal from the tip of the snout equals that of the pectoral from the same point and is contained $4\frac{1}{4}$ times in the standard body length; the base of this fin is twice as long as the longest ray of the soft dorsal. The length of the first spine equals that of the first ray of the soft dorsal and is contained $3\frac{1}{2}$ times in that of the head. The fourth spine is the longest, its length being contained $2\frac{1}{2}$ times in that of the head. The last spine is very little more than $\frac{1}{2}$ as long as the first. The first line is serrated along the lower third of its anterior edge, and all the following spines except the last are similarly armed along the anterior edge of their exerted tips. Even the first ray of the second dorsal is thickly set with minute spines.

The length of the base of the soft dorsal is contained $2\frac{1}{5}$ times in the standard body length (or unit of length). Its first ray equals in length the longest anal ray; it is also as long as the first spine and as the distance from the snout to the orbit. The fourth, fifth, sixth, and seventh rays are the longest and about equal in length; they are twice as long as the last ray and one-fifth as long as the soft dorsal base. The membrane behind the last dorsal spine extends to the base of the first soft ray. The origin of the anal fin is vertically beneath the base of the second soft ray. The distance of the anal origin from the snout is less than the length of the anal base. The length of the first anal ray equals the least height of the tail and is slightly more than $\frac{1}{2}$ that of the fifth to the eighth, which are the longest. The last ray is $\frac{1}{2}$ as long as the orbit. The vent is nearly midway between the origin of the ventrals and that of the anal.

The caudal is distinctly emarginate when fully expanded. The length of the middle rays is contained 9 times, and that of the external rays $7\frac{7}{10}$ times in the unit of length.

The structure of the pectoral is similar to that in *T. pingelii*, but the longest of the exerted lower rays extends considerably farther back than the upper portion of the fin. The origin of the pectoral is directly under that of the spinous dorsal. The length of the longest exerted ray (11th) is contained $4\frac{1}{2}$ times in the standard body length. Five of the lower pectoral rays are modified. The tenth pectoral ray, which is the longest of the non-exerted portion, is only about $\frac{5}{8}$ as long as the eleventh and extends to near the end of the spinous dorsal.

The ventral is situated farther in advance than in *T. pingelii*, and does not quite reach to the vent when extended. Its length is contained nearly 12 times in the unit of length.

Radial formula.—Br. VI; D. XI, 29; A. 29; C. 11 (developed); P. 10+5; V. 1, 3; L. Lat. 51.

Colors.—There are traces of the same half bars which ornament the

back and sides of *T. pingelii*, but the dorsal portion of the markings is very faint and the lower limits of the dark areas are the most intense and form a succession of elongate blotches along the median line of the body, partly below and partly on the lateral line. Dorsal fins with 3 series of dark spots on the rays and spines, but not on the connecting membrane; these spots forming broken bands which are oblique on the first dorsal and nearly horizontal on the soft dorsal when the fins are raised. A crescent-shaped broken band crosses the top of the body at the ninth dorsal spine. A short, dark blotch near the root of the pectoral on the 10th, 11th, and 12th rays. Another dusky blotch in the upper axil of the pectoral. Four dusky bars on the pectoral, the first of which is very short, involving only about five of the rays, the 2d and 3d extending to the first exserted ray, and the 4th, which is near the tip of the fin, extending on the 7 upper rays only. Caudal dusky at base and with 4 bars, the first of which is faint in the middle and the last interrupted by the emargination of the fin. Lips and upper portion of maxilla dusky. A dark blotch on the interoperculum. Membrane lining the inner surface of the operculum dusky. Ventrals and anal whitish.

Measurements.

Species	<i>Prionistius macellus.</i>		<i>Triglops Pingelii.</i>	
	31958		31957	
Current number of specimen	Carter Bay, British Columbia, August, 1882.		Wrangel Straits, Alaska, November, 1882.	
Locality				
	Millim.	100ths of length.	Millim.	100ths of length.
Extreme length	172	-----	180	-----
Length to origin of middle caudal rays	154	100	159	100
Body:				
Greatest height	19	12.3	30	19
Greatest width	17	11	24	15.1
Height at ventrals	18	11.7	30	19
Least height of tail	6	3.9	6	3.8
Length of caudal peduncle	22	14.3	29	18.2
Head:				
Greatest length	37	24	45	28.3
Greatest width	20	13	29	18.2
Width of interorbital area	3	1.9	4	2.5
Length of snout	10	6.5	11	7
Length of upper jaw	16	10.4	21	13.2
Length of lower jaw	19	12.3	26	16.4
Distance from snout to orbit	11	7.1	15	9.4
Diameter of orbit	10	6.5	13	8.2
Dorsal (spinous):				
Distance from snout	36	23.4	43	27
Length of base	28	18.2	34	21.4
Length of first spine	11	7.1	10	6.2
Length of fourth spine (longest)	15	9.7	-----	-----
Length of seventh spine	-----	-----	14	8.8
Length of last spine	4	2.6	5	3.1
(soft)—Length of base	70	45.5	65	41
Length of first ray	11	7.1	13	8.2
Length of longest ray (4th to 7th)	14	9.1	(4th) 17	10.7
Length of last ray	7	4.5	6	3.8
Anal:				
Distance from snout	65	42.2	72	45.3
Length of base	70	45.5	58	36.5
Length of first ray	6	3.9	10	6.3
Length of longest ray (5th to 8th)	11	7.1	14	8.8
Length of last ray	5	3.2	6	3.8
Caudal:				
Length of middle rays	17	11	21	13.2
Length of external rays	20	13	22	14
Pectoral:				
Distance from snout	36	23.4	44	28
Length of 11th ray	34	22	(12th) 35	22
Length of 10th ray	27	17.5	(11th) 35	22
Ventral:				
Distance from snout	37	24	49	30.8
Length of ventral	13	8.4	19	12
Branchiostegals	VI	-----	VI	-----
Dorsal	XI, 29	-----	XI, 25	-----
Anal	29	-----	24	-----
Caudal	11	-----	11	-----
Pectoral	10+5	-----	11+7	-----
Ventral	1, 3	-----	I, 3	-----
Number of scales in lateral line	51	-----	50	-----

29. *Sebastichthys ciliatus* (Tiles.) Jor. & Gilb.

32008 (176). Mary Island, Alaska, July, 1882.

32014 (190). Tolstoi Bay, Alaska, Oct., 1882.

Radial formula: D. XII, I, 15; A. III, 8.

33785 (199). Nakat Harbor, Alaska, May 25, 1883.

33791 (243). Port Chester, Alaska, Aug. 29, 1883.

30. *Sebastichthys proriger* Jor. & Gilb. subsp. *brevispinis* nov.

32004 (185). Hassler Harbor, Alaska, Aug., 1882.

This individual has the peritoneum white and the second anal spine shorter than the third. There are two other examples of the same form

in a previous collection from Captain^s Nichols, both of which have the characters of No. 32004. Other differences exist between typical *proriger* and its Alaskan ally, which may necessitate their consideration as distinct species, but, for the present, we may regard them as sufficiently distinguished by the peculiarities and the nomenclature above mentioned.

31. *Sebastichthys caurinus* (Rich.) Jor. & Gilb.

31998 (136). Duncan's Bay, Brit. Col., June, 1882.

This individual has the following radial formula: D. XII, I, 13; A. III, 6.

31999 (133). Departure Bay, Brit. Col., June, 1882.

"Color mottled brown."

32005 (139). Duncan's Bay, Brit. Col., June, 1882.

The radial formula of the last is as follows: D. XII, I, 14; A. III, 6.

31984 (178). Mary Island, Alaska, July, 1882.

32. *Sebastichthys maliger* Jor. & Gilb.

32002 (149). Safety Cove, Brit. Col., June, 1882.

"Rock cod." The dorsal spines are not so greatly developed as usual in the species.

33. *Sebastichthys nebulosus* (Ayres) Jor. & Gilb.

32013 (181). Near Mary Island, Alaska, July, 1882.

This beautifully colored example has the following radial formula: D. XII, 13; A. III, 7.

34. *Sebastichthys nigrocinctus* (Ayres) Jor. & Gilb.

32006 (152). Near Mary Island, Alaska, July, 1882.

The fin-rays are as follows: D. XII, I, 14; A. III, 7.

35. *Hexagrammus asper* Steller.

31980 (161). Port Simpson, Brit. Col., June 23, 1882.

31981 (174). Alaska, July, 1882.

36. *Hexagrammus decagrammus* (Pall.) Jor. & Gilb.

31995 (140). Duncan's Bay, Brit. Col., June, 1882.

32011 (189). Tolstoi Bay, Alaska, Oct., 1882.

37. *Ophiodon elongatus* Girard.

31956 (151). Head of Safety Cove, Brit. Col., June, 1882.

"Codfish. The only one caught. Length 42 inches between extremes; weight 20 pounds; 16 fathoms, sandy bottom."

38. *Anoplopoma fimbria* (Pall.) Gill.

31974 (156). Cardenas Bay, Brit. Col., June, 1882.

31975 (148). Safety Cove, Brit. Col., June 21, 1882.

32003 (184). Hassler Harbor, Alaska, Aug., 1882.

39. *Damalichthys argyrosomus* (Girard) Jor. & Gilb.

32018 (134). Departure Bay, Brit. Col., June, 1882.

"Bass." D. X, 21; A. III, 27; scales 7-67-17.

40. *Ditrema laterale* (Agassiz) Günther.

32019 (135). Departure Bay, Brit. Col., June 9, 1882.

Two specimens measuring 9 inches in length. One of them has the following characters: D. XI, 23; A. III, 29; scales 64 (in the other 65).

41. *Micrometrus aggregatus* Gibbons.

31970 (163). Port Simpson, Brit. Col., June, 1882.

31971 (193). Port Wrangel, Alaska, Oct., 1882.

31972 (132). Departure Bay, Brit. Col., June, 1882.

D. IX, 23; A. III, 25; scales 4-42-11.

This is the first Embiotocoid recorded from Alaska, so far as I know.

42. *Salmo gairdneri* Rich.

31989 (179). Mountain Lake near Mt. Tongass, Alaska, Aug., 1882.

43. *Salmo purpuratus* Pallas.

31990 (144). Johnston's Straits, Brit. Col., June, 1882.

44. *Salvelinus malma* (Walb.) Jor. & Gilb.

31979 (162). Port Simpson, Brit. Col., June, 1882.

45. *Clupea mirabilis* Girard.

31976 (192). Port Wrangel, Alaska, Oct., 1882.

A single individual 9 inches long.

31987 (168). Port Simpson, Brit. Col., July, 1882.

31988 (164). Port Simpson, Brit. Col., June, 1882.

46. *Raia binocularata* Girard.

31996 (150). Head of Safety Cove, Brit. Col., June, 1882.

Teeth in 40 rows in each jaw.

47. *Squalus acanthias* Linné.

31965 (145) ♂. Johnston's Straits, Brit. Col., June, 1882.

48. *Somniosus microcephalus* (Bloch) Gill.

31994 (183). Hassler Harbor, Alaska, August 10, 1882.

"Mackerel-shark, eight feet long, four feet girth; color black." Only the jaws were preserved.

NOTE.—The portion relating to collection of 1883 was written Dec. 10, 1883.

UNITED STATES NATIONAL MUSEUM,

Washington, June 22, 1883.